

# SENTIMENTS ANALYSIS – A MIRROR TO BRAND REPUTATION OF ECOMMERCE COMPANIES: A REVIEW

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**Abstract**—This paper provides an analysis of how Sentiment analysis algorithm helps the ecommerce companies to understand their brand perception in the market and help them to redesign their strategies to increase their brand reputation and revenue.

**Index Terms**— Sentiment analysis, Machine Learning, Artificial Analysis, Natural Language Processing, NLP.

## I. INTRODUCTION

The analysis and quick reaction to the customer's opinion about the company's brand / product / services is inevitable for the success of the business. There is a growing trend that the companies started to focus on the tone of the customer along with the positive or negative comments about the products / services they availed from the company as ecommerce companies loses significant portion of their sales as they could not capitalize valuable business intelligence available in the social media posts.

## II. BUSINESS PROBLEMS

The ecommerce companies would like to understand about their brand reputation, the positive and negative sentiments and problems faced by their users, product attributes which creates negative impact to the sales, the user needs and understand the trending topics for the content marketing.

## III. HOW THE SENTIMENT ANALYSIS HELPS THE BUSINESS?

### A. Improve customer experience

Sentiment analysis helps to detect the customer's sentiment on the products / services in their social media postings and classify them as positive or negative. Ecommerce companies can make use these insights to improve their customer experience and their brand image.

### B. Achieve competitive edge

The customers those are very much active on social media, expects that their concerns or feedback are heard and replied within sixty minutes by the company. So, it is crucial for the

customer support team to react to the customer's post in the social media. Sentiment analysis helps to predict the customer trends and work on the strategies to capitalize and achieve competitive advantage.

### C. Insightful Business Intelligence

Companies requires business intelligence to meet and improve their customer's expectations in service delivery. Sentiment analysis provides the required insights about the customer's expectation to define the strategies for improvement of customer service.

### D. Market analysis

Sentiment analysis help to discover the latest trends and new business opportunities. It provides an answer to many questions like whether the market is stable enough and the brand is received well, what the customers are taking about our products / services, Is there any untapped opportunities and customers, etc.

### E. Brand revitalization

Brand image is none other than the customer's perception about the overall company. Sentiment analysis helps to quantify the customer perception and get the competitive edge in the market.

## IV. PROCESS OF SENTIMENT ANALYSIS

The following process is widely followed in Sentiment Analysis;

- Extract the consumer generated content like tweets, comments, status updates, etc., by leveraging the APIs of different social media networks.
- Analyze the tweets, comments, status updates, etc., and build the data dictionary. Classify them into different types of sentiments / emotions
- Apply Natural Language Processing (NLP) techniques and derive the meaningful insights.

- Cleanse the data to exclude sarcasms, idioms and metaphors, etc.
- Conduct the trend analysis across different social media accounts and find the commonality in the sentiments.

#### V. LIMITATION OF SENTIMENT ANALYSIS

Customer's sentiment about the product or brand may be influenced by many factors. He might have a bad day and it may directly influence his remark negatively. Also, sentiment can change over a period based on his mood. So, it is advisable to go with large sample of data. It will be difficult for an algorithm to understand the sarcasm and ironic language while interpret the sentiment in isolation. So, there is a need to train the model rigorously.

#### VI. CONCLUSION

There are many studies available on the implementation of the sentiment analysis which provides helping hand to ecommerce companies to get to know about their brand reputation in the market but comprehensive details on this topic is required. In this study, we have discussed the processes to be followed, best practices and limitations of Sentiment analysis. This study will provide Artificial Intelligence Practitioners a better view on how to approach Sentiment Analysis.

#### REFERENCES

- [1] Liu, B. 2006. *Web Data Mining: Exploring Hyperlinks, Contents, and Usage Data*, Springer.
- [2] Wiebe, J. & Riloff, E. 2005. Creating subjective and objective sentence classifiers from unannotated texts. *Computational Linguistics and Intelligent Text Processing*, 2005, pp. 486-497.
- [3] Nasukawa, T. & Yi, J. 2003. Sentiment analysis: capturing favorability using natural language processing. In *Proceedings of the 2nd international conference on Knowledge capture*, October 23–25, 2003. (pp. 70–77). Florida, USA.
- [4] Morinaga, S., Yamanishi, K., Tateishi, K., Fukushima, T. 2002. Mining product reputations on the web. In *Proceedings of the eighth ACM SIGKDD international conference on Knowledge discovery and data mining*, pp. 341-349.
- [5] Pang, B., Lee, L., Vaithyanathan, S. 2002. Thumbs up? Sentiment Classification using Machine Learning Techniques. *Proc. of 7th EMNLP*, pp.79-86.
- [6] Tong, R.M. 2001. An operational system for detecting and tracking opinions in on-line discussion. In *Proceedings of SIGIR Workshop on Operational Text Classification*.
- [7] Turney, P. 2002. Thumbs up or thumbs down? semantic orientation applied to unsupervised classification of reviews. In *Proceedings of the 40th ACL*, pp. 417-424.
- [8] Wiebe, J. (2000) Learning subjective adjectives from corpora. In *Proceedings of National Conference on Artificial Intelligence*.
- [9] Wilson, T., Wiebe, J., Hoffmann, P. 2009. Recognizing contextual polarity: An exploration of features for phrase level sentiment analysis. *Computational Linguistics*, 35(3), pp. 399-433.
- [10] Hatzivassiloglou, V. & McKeown, K.R. 1997. Predicting the semantic orientation of adjectives. In *Proceedings of the 8th conference on European chapter of the association for computational linguistics Madrid, Spain*, pp.174-181.
- [11] Pang, B., & Lee, L. 2004. A sentimental education: sentiment analysis using subjectivity summarization based on minimum cuts. In *Proceedings of the 42nd annual meeting of the Association for Computational Linguistics (ACL)*, pp. 271–278. Barcelona, Spain
- [12] Yi, J., Nasukawa, T., Niblack, W., Bunescu, R. 2003. Sentiment analyzer: extracting sentiments about a given topic using natural language processing techniques. In *Proceedings of the 3rd IEEE international conference on data mining (ICDM 2003)*, November 19–22, 2003, pp. 427-434 Florida, USA.
- [13] Hiroshi, K., Tetsuya, N., Hideo, W. 2004. Deeper sentiment analysis using machine translation technology. In *Proceedings of the 20th international conference on computational linguistics (COLING 2004)*, August 23- 27, pp. 494-500, Geneva, Switzerland.
- [14] Bollen, J., Mao, H., Zeng, X. 2011. Twitter mood predicts the stock market. *Journal of Computational Science*, 2(1), pp. 1-8.